

Joshua D. Stein, M.D.  
Trinity Clinic Orthopaedic and Sports Medicine  
1327 Troup Hwy  
Tyler, TX 75701  
(903) 510-8840

## **Meniscus Repair Rehabilitation**

This rehabilitation protocol was developed for patients who have isolated meniscal repairs. Meniscal repairs located in the vascular zones of the periphery or outer third of the meniscus are progressed more rapidly than those repairs that are more complex and located in that avascular zone of the meniscus. Dependent upon the location of the repair, weight bearing status post-operatively as well as the intensity and time frame of initiation of functional activities will vary. The protocol is divided into phases. Each phase is adaptable based on the individual patients and special circumstances.

The **overall goals** of the repair and rehabilitation are to:

- Control pain, swelling, and hemarthrosis
- Regain normal knee range of motion
- Regain a normal gait pattern and neuromuscular stability for ambulation
- Regain normal lower extremity strength
- Regain normal proprioception, balance, and coordination for daily activities
- Achieve the level of function based on the orthopedic and patient goals

The physical therapy should be initiated within 3 to 5 days post-op. It is extremely important for the supervised rehabilitation to be supplemented by a home fitness program where the patient performs the given exercises at home or at a gym facility.

**Important post-op signs** to monitor:

- Swelling of the knee or surrounding soft tissue
- Abnormal pain response, hypersensitive
- Abnormal gait pattern, with or without assistive device
- Limited range of motion
- Weakness in the lower extremity musculature (quadriceps, hamstring)

- Insufficient lower extremity flexibility

**Return to activity** requires both time and clinic evaluation. To safely and most efficiently return to normal or high level functional activity, the patient requires adequate strength, flexibility, and endurance. Isokinetic testing and functional evaluation are both methods of evaluating a patient's readiness to return to activity. Return to intense activities such as impact loading, jogging, deep knee flexion, or pivoting and shifting early post-operatively may increase the overall chance of a repeat meniscal tear and symptoms of pain, swelling, or instability should be closely monitored by the patient.

### **Phase 1-Weeks 1-2 Meniscal Repair**

#### **WEEK EXERCISE GOAL**

1-2 **ROM 0-90°**  
 Passive, 0-90°  
 Patellar mobs  
 Ankle pumps  
 Gastrocnemius/soleus stretch  
 Hamstring/ITB stretch  
 Prone hangs to facilitate extension

#### **STRENGTH**

Quad sets with E-stim/biofeedback  
 SLR in 4 planes  
 SAQ  
 Multi-hip machine in 4 planes  
 Hip flexion-seated  
 Multi-angle isometrics (0-60°)

#### **WEIGHT BEARING**

Toe touch weight bearing in I-ROM  
 with crutches

#### **MODALITIES**

E-stim/biofeedback as needed  
 Ice 15-20 minutes with 0° knee ext

#### **BRACE**

Remove brace to perform ROM activities  
 I-ROM with crutches  
 Brace locked at 0° ext to protect repair

#### **GOALS OF PHASE:**

- Control pain, inflammation, and effusion
- Adequate quad/VMO contraction
- Independent in HEP

- TDWB to PWB as noted

## **Phase 2-Weeks 2-4 Meniscal Repair**

### **WEEK EXERCISE GOAL**

2-4 **ROM 0-120°**  
Passive, 0-120°  
Patellar mobs  
Gastroc/soleus stretch  
Hamstring/quad/ITB stretch  
Prone hang as needed  
Heel/wall slides to reach goal

### **STRENGTH**

Quad sets with biofeedback  
SLR in 4 planes with ankle weight  
Multi-angle isometrics (0-60°)  
Knee extension (90-30°)  
Heel raises/Toe raises  
Leg Press (110-40°)  
Wall squats

### **BALANCE TRAINING**

Weight shift (side/side, fwd/bkwd)  
Single leg balance  
Cup walk/Hesitation walk

### **WEIGHT BEARING PWB to FWB**

PWB to FWB with crutches as tolerated

### **BICYCLE**

May initiate bike when 110° flex is reached  
DO NOT use bike to increase flexion

### **MODALITIES**

Biofeedback as needed  
Ice 15-20 minutes

### **BRACE Discharge wk 4**

I-ROM with crutches  
Opened to 90° at wk 2  
Opened to full ROM at wk 3-4

### **GOALS OF PHASE:**

- ROM 0-120°
- Adequate quad/VMO contraction
- Control pain, inflammation, and effusion
- PWB to FWB with quad control

**Phase 3-Weeks 4-12**  
**Meniscal Repair**

**WEEK EXERCISE GOAL**

4-12 **ROM 0-135°**  
Passive, 0-135° (full)  
Gastroc/soleus stretch  
Hamstring/quad/ITB stretch  
Prone hang to reach goal as needed  
Patellar mobs

**STRENGTH**

Bicycle/EFX  
SLR in 4 planes with ankle weight/tubing  
Mini-squats/Wall squats  
Knee extension (90-30°)  
Hamstring curl (0-90°)  
Leg Press-single legged eccentric  
Smith Press-double legged  
Isokinetic training at high speeds (180-360°/sec)  
Multi-hip machine in 4 planes  
Lateral/Forward step-up/down  
Heel raise/Toe raise  
Lunges-knee not to migrate over toe

**BALANCE TRAINING**

Single leg balance with plyotoss  
Sports cord agility work  
Wobble board work  
½ Foam roller work

**WEIGHT BEARING FWB**

FWB by wk 4

**BRACE Discharge**

As needed wk 4

**MODALITIES**

Ice 15-20 minutes as needed

**GOALS OF PHASE:**

- ROM 0-135°
- Full weight bearing
- Control pain, inflammation, effusion
- Increase lower extremity strength and endurance
- Enhance proprioception, balance, and coordination
- Complete readiness for sport specific activity

**Phase 4-Weeks 12-36**  
**Meniscal Repair**

**WEEK EXERCISE**

12-36

**ROM**

Continue all stretching activities

**STRENGTH**

Continue all exercises from previous phases

**RUNNING PROGRAM**

Water walking

Swimming (kicking)

Backward run

**CUTTING PROGRAM**

Lateral shuffle

Carioca, figure 8's

**FUNCTIONAL TRAINING**

Initiate light plyometric program

box hops, level, double-leg

Sport specific drills

**MODALITIES**

Ice 15-20 minutes as needed

**GOALS OF PHASE:**

- Enhance neuromuscular control
- Progress skill training
- Perform selected sports specific activity-unrestricted sporting activity
- Achieve maximal strength and endurance

Advanced weight training and sports specific drills are advised to maintain a higher level of competition. Isokinetic testing at 6 and 12 months may be recommended to guarantee maintenance of strength and endurance